U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

PB-282 096

Bat Management in the United States A Survey of Legislative Actions, Court Decisions and Agency Interpretations

Environmental Protection Agency, Chicago, Ill Region V

Apr 78

United States
Environmental Protection
Agency

Region V
230 South Dearborn St.
Chicago, Illinois, 60604

EPA 905 / 3-78-001
April, 1978

PB 282 096

WATER

EPA

Bat Management in the United States:

A Survey of Legislative Actions, Court Decisions and Agency Interpretations

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

DISCLAIMER

Publication of this report does not signify that the contents necessarily reflect the views and policies of the U.S. Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

THIS FORM IS PRINTED AS THE FINAL PAGE IN THIS REPORT

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO. EPA-905/3-78-001	2.
3. RECIPIENT'S ACCESSION NO. PB282096	
4. TITLE AND SUBTITLE BAT MANAGEMENT IN THE UNITED STATES: A Survey of Legislative Actions, Court Decisions and Agency Interpretations	5. REPORT DATE April, 1978
	6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) Thomas M. Lera and Sue Fortune	8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Environmental Protection Agency - Region V Water Division, Planning Branch 230 South Dearborn Chicago, Illinois 60604	10. PROGRAM ELEMENT NO.
	11. CONTRACT/GRANT NO.
12. SPONSORING AGENCY NAME AND ADDRESS U.S. Environmental Protection Agency - Region V Water Division, Planning Branch 230 South Dearborn Chicago, Illinois 60604	13. TYPE OF REPORT AND PERIOD COVERED Final
	14. SPONSORING AGENCY CODE
15. SUPPLEMENTARY NOTES To be published, in part, in the quarterly issue of National Speleological Society Bulletin.	

16. ABSTRACT

In 1966, Congress enacted legislation which afforded native animals legal protection. Since that time, this legislation has been twice revised. The current Endangered Species Act of 1973, provides not only animals but also plants with what appears to be a reasonable degree of protection and survival. Recent court decisions support the concept and validity of the Endangered Species Act of 1973.

This paper is the result of a survey conducted throughout 14 Federal departments and agencies in order to obtain their interpretation of this legislation, and more specifically, how bats are protected by this interpretation. The survey included four questions:

1) What Federal laws, regulations and guidelines govern your Agency's actions regarding both the protection and/or eradication of bats?
2) How has your Agency interpreted these laws, regulations and guidelines in the formation of its internal policies?
3) What do your protection policies include?
4) If eradication is necessary, what methods and recommendations are followed, and what chemicals and in what dosages are allowed?

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Endangered Species Legislation Bats	Animal Management	

18. DISTRIBUTION STATEMENT Release Unlimited	19. SECURITY CLASS *(This Report)* Unclassified	21. NO. OF PAGES 53
	20. SECURITY CLASS *(This page)* Unclassified	22. PRICE A04 - A01

EPA Form 2220-1 (9-73)

April, 1978

EPA-905/3-78-001

BAT MANAGEMENT IN THE UNITED STATES:

A Survey of Legislative Actions, Court Decisions and Agency Interpretations

Thomas M. Lera
U.S. Environmental Protection Agency - Region V
230 South Dearborn Street
Chicago, Illinois 60604

Sue Fortune
6941 East Sherman Street
Whittemore, Michigan 48770

ABSTRACT

In 1966, Congress passed legislation which afforded native animals legal protection. Since that time, this legislation has been twice revised. The current Endangered Species Act of 1973, provides not only animals but also plants with what appears to be a reasonable degree of protection and survival. Recent court decisions support the concept and validity of the 1973 Act.

This paper is the result of a survey conducted throughout fourteen federal departments and agencies in order to obtain their interpretation of the 1973 Act, and more specifically, how bats are protected by this interpretation.

TABLE OF CONTENTS

		Page
ABSTRACT		*ii*
INTRODUCTION		1
Section I	CONGRESSIONAL ACTION	3
	Endangered Species Act	5
	Habitat Preservation	8
	Department of the Interior Actions	10
II	COURT DECISIONS	13
	Froehlke	13
	National Wildlife Federation	14
	Hill	14
	Defenders of Wildlife	15
	Capparet	15
III	SURVEY PROCEDURE	17
IV	AGENCY RESPONSE	19
	Department of Agriculture	19
	Department of Commerce	20
	Department of Defense	21
	Department of Health, Education & Welfare	22
	Department of Housing & Urban Development	23
	Department of Interior	24
	Department of Justice	27
	Department of Labor	28
	Department of State	28
	Department of Transportation	28
	Environmental Protection Agency	29
	Tennessee Valley Authority	30
	Council of Environmental Quality	31
	Office of Science and Technology Policy	31
V	CONCLUSION	33
VI	APPENDIX I	37
	APPENDIX II	38

Section		Page
	APPENDIX III	39
	APPENDIX IV	40
	APPENDIX V	43
VII	FOOTNOTES.	45
VIII	ACKNOWLEDGEMENT.	49

INTRODUCTION

Between the years 1600 and 1850, five American animal species vanished. In startling contrast, fifty-seven additional mammal, fish, and bird species have been forced into extinction just since the year 1850.[1] This represents a twenty-two fold increase in the rate of extinction of numerous North American species in a little more than 125 years. The basic reason for this dramatic increase in species extinction is the rapid, and in some cases, uncontrolled development and advancement of our modern industrial and technological society.[2]

Ironically, while we have made remarkable advancements industrially and technologically and maximized the potential and usefulness of many of our resources, we have in effect, reduced drastically and irreversibly some of what must be considered our most precious assets as well as resources.

In an attempt to counter this ongoing and potentially disastrous process, Congress passed, during the years 1969-1973, three major legislative acts which were designed to encompass and provide impetus to the concept of protection to any and all endangered species.

The purpose of this paper is two-fold: 1) an attempt will be made to acquaint the reader with the development and history of these three acts with primary focus resting on the most recent Act and subsequent evaluation of its effectiveness in recent court decisions; and 2) to specifically analyze the impact this Act has had upon the preservation and/or eradication of bats. The application of this Act toward specific species of bats has been determined by having thoroughly surveyed the major federal agencies to determine if their policies and practices are, indeed, uniform and consistent both internally and externally at all levels.

SECTION I

CONGRESSIONAL ACTION

The first formal involvement by Congress in endangered species legislation began with the Endangered Species Preservation Act of October 15, 1966,[3] hereinafter referred to as the "1966 Act." This law acknowledged a national responsibility to act on behalf of native species of wildlife which were threatened with extinction. It required that the Secretary of the Interior implement a comprehensive program to conserve restore, and where necessary, bolster wild populations found threatened with extinction. It also required the Secretary to determine which species were endangered and to publish this list in the Federal Register by scientific and common name.

Its amended version, the Endangered Species Conservation Act was enacted on December 5, 1969,[4] hereinafter referred to as the "1969 Act." This amendment to the 1966 Act greatly expanded the scope of effort to conserve endangered species in several significant respects:

1. It broadened coverage to include all vertebrates, mollusks, and crustaceans on a world-wide basis.
2. It permitted the consideration of subspecies as well as species.
3. It ensured that the United States would not contribute to the extinction of other nations' wildlife.
4. It protected native endangered species by making their sale or purchase unlawful.
5. It increased the funds authorized to acquire lands for the purpose of conserving, protecting, restoring and propagating any endangered species.

Although the 1969 Act had laid the framework for an effective endangered species conservation program, with controls on traffic in threatened species as well as habitat preservation and restoration, it did not automatically

Preceding page blank

afford native endangered species adequate protection.

President Nixon stated in his Environmental Message of February 8, 1972, that the existing law "...simply does not provide the kind of management tools needed to act early enough to save a vanishing species."[5] A Congressional study had found "...that various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation" and that others are "...threatened with extinction."[6]

The 1969 Act also did not prohibit the killing of any endangered species. The only endangered species that were protected by state or federal laws were those incorporated into the revisions of the Lacey Act.[7] As a result, Congress then found it necessary to improve protection for all species designated as endangered. By now it had also determined that "...the inadequacy of existing regulatory mechanism"[8] was one of several factors, two of which were hunting and destruction of natural habitats, that were contributing enormously to the continuing problem of animal extinction.[9]

After Congressional study and Presidential urging, the Endangered Species Act was passed on December 28, 1973,[10] hereinafter referred to as the "1973 Act." It totally replaced the 1969 Act, and superceded all of the 1966 Act except for the provisions relating to the National Wildlife Refuge System.

ENDANGERED SPECIES ACT

A major purpose of the 1973 Act is the "conservation of endangered and threatened species", [11] and "conservation" is strictly defined as:

> "...the use of all methods and procedures which are necessary to bring any endangered or threatened species to the point at which the measures provided pursuant to this chapter (1973 Act) are no longer necessary."[12]

The 1973 Act empowers the Secretary of the Interior to compile and maintain separate official lists of threatened and endangered species.[13] An "endangered species" is defined as "any species which is in danger of extinction throughout all or a significant portion of its range..."[14] This definition is further specified by the requirement that animals may be listed as endangered "on the basis of the best scientific and commercial data available."[15]

The term "threatened species" is defined to include "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."[16] The Secretary is also empowered to issue "such regulations as he deems necessary and advisable for the conservation of such species."[17] This action provides the Department of the Interior with the power to act to protect animals before they actually become endangered.

The 1973 Act also commits all federal agencies to "utilize their authorities in furtherance of the purposes of this chapter by...taking such action necessary to ensure that actions authorized, funded, or carried out by them do not jeopardize the continued existence of such endangered and threatened species or result in the destruction or modification of habitat of such species which is determined by the Secretary...to be critical."[18]

The Secretary of the Interior, in order to fulfill the requirements of the 1973 Act, must determine whether or not the habitat to be affected by any project might be critical to the endangered species to ensure that the actions will not harm the habitat.[19] This requirement imposes on federal agencies the mandatory duty of ensuring that their actions will not either jeopardize the existence of an endangered species or destroy and/or modify the critical habitat of an endangered species. The primary responsibility for implementing this section lies with the Secretary of the Interior. Federal agencies are required to consult and obtain the assistance of the Secretary before any actions are taken which may affect any endangered species or their critical habitat.

The 1973 Act also specifically provides that no other State law or regulation intended as a conservation measure should be construed as void. "State laws respecting the taking of an endangered or threatened species may be more restrictive than the permits or exemptions provided for in this chapter (1973 Act) or in any regulation which implements this chapter (1973 Act) but not less restrictive than the prohibitions so defined."[20]

It should also be noted that the 1973 Act keynotes that "The President shall provide assistance to foreign countries and urge international cooperation in establishing programs to protect endangered species."[21]

The 1973 Act expanded the list of prohibited activities far beyond any of the previous two Acts. In addition to prohibitions against importation (included in the 1969 Act) and prohibitions against the movement in interstate commerce of animals taken in violation of local laws (included in the Lacey Act), the 1973 Act bans "exporting, taking within the United States or its territorial seas or on the high seas, possessing or transporting any endangered species illegally taken, transporting any endangered species in interstate or foreign commerce for commercial purposes, or offering to sell

or selling such animals in interstate or foreign commerce."[22] Finally, protection was also aforded for the first time to endangered species of plants.[23]

Although Congress had recognized that hunting and destruction of natural habitat were two major causes of extinction, the 1973 Act addressed still another cause of extinction - "overutilization for commercial, sporting, scientific or educational purposes."[24] Even the prohibition against "taking" also addresses the overutilization issue, since "taking" is defined to include "harrass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect."[25]

Finally, the 1973 Act authorized suits by private citizens seeking "to enjoin any person, including the United States and any agency or other governmental instrumentality...who is alleged to be in violation of any provision of this chapter or regulation issued under the authority thereof"[26] and may obtain injunctive relief.

HABITAT PRESERVATION

As previously stated, the 1973 Act specifically mentions habitat preservation.[27] Habitat, as defined, consists of a spatial environment in which a species lives including the elements of land, water, air and geographical boundary. A critical habitat for any species, not the least of which includes man, is the entire habitat or any portion of it, if and only if, any constituent element is necessary to the normal needs or survival of that species. Critical habitat may not be restricted to the habitat necessary to maintain a minimum viable population. The following needs, therefore, are relevant in the determination of a critical habitat for any given species:

1. Space for normal growth, movement or territorial behavior;
2. Nutritional requirements, such as food, water or essential minerals;
3. Sites for breeding, reproduction or rearing of offspring;
4. Cover or shelter; or
5. Other biological, physical or behavioral requirements.[28]

Under this concept, the destruction, disturbance, modification, curtailment or subjection to human activity of any habitat considered critical for a given species, would not conform with the 1973 Act if such action might be expected to result in a reduction in the numbers or distribution of that species of sufficient magnitude to place said species in further jeopardy or were to result in a restriction of the potential and reasonable expansion or recovery of that species. Federal conservation actions involving critical habitats may include "the development of regulations, land and water acquisition, leasing arrangements, federal/state cooperation in implementing the 1973 Act and other administrative research and management plans and activities.[29]

It should be noted that there may be many kinds of actions which can be carried out within the critical habitat of a species that would not be expected to result in a reduction in the numbers or distribution or otherwise adversely affect that species.

DEPARTMENT OF THE INTERIOR ACTIONS

After the 1966 Act was passed on March 11, 1967, seventy-eight species were listed as endangered including the Indiana bat (Myotis sodalis).[30] When the 1966 Act was replaced by the 1969 Act, another United States endangered species list was published. This list named 101 species including the Indiana bat and the Hawaiian hoary bat (Lasiurus cinereus semotus),[31] and as expected, with the passage of the 1973 Act, yet another list was published. This list, however, included threatened and endangered wildlife, and by April 28, 1976 [32] a third species of bat had been added to the ever-growing list; the Gray bat (Myotis grisescens).[33]

In accordance with the 1973 Act, the Department of the Interior now requested determination of critical habitat for 108 species which included the Hawaiian hoary bat and the Indiana bat.[34] Critical habitat was finally determined for the Indiana bat on September 24, 1976.[35] (Appendix I lists known areas of critical habitat for the Indiana bat).

At the time of this writing, the Department of Interior is also considering placing two additional bat species on the endangered list with critical habitat proposal for one of the species. These are the Ozark big-eared bat (Plecotus townsendii ingens) and the Virginia big-eared bat (Plecotus townsendii virginianus).[36] Notice was given in the Federal Register and there is a 90-day review and comment period. If no adverse comments are received or reasons given as to why these species should not be considered as endangered, the Department of the Interior will determine that they are endangered and as such, they will be protected by the 1973 Act. (Appendix II lists the proposed critical habitat for the Virginia big-eared bat).

As previously stated, the 1973 Act's primary objective is "to conserve" species by providing protection and monitoring populations.[37] The Indiana bat, however, has been one of the endangered species where a recovery team was formed and a recovery plan was prepared. This plan was approved on June 1, 1976.[38] The plan lists three major goals to preserve the Indiana bat and bring it back to the status where it can be removed from the endangered species list. These goals are:

1. To preserve critical winter habitat, secure primary caves and mines and restrict entry;
2. Initiate an information and educational program; and
3. Monitor population levels and habitats.

The plan has an implementation schedule and is proceeding accordingly.

SECTION II

COURT DECISIONS

In recent years court decisions concerning endangered species have increased in frequency and have proven to be of major significance in that they have embodied individual and governmental attempts to make difficult and yet practical decisions concerning the preservation of species in an increasingly technological and urbanized environment which often casts aside the fate of endangered species. Since passage of the 1973 Act, there have been several landmark federal court decisions which have, 1) greatly affected application of the 1973 Act, 2) established a burden of proof responsibility upon those wishing to utilize the Act as a deterrent against further habitat and/or species destruction, and 3) yet, in actuality, have strengthened the position of the endangered species themselves.

The primary issue in Froehlke,[39] became whether the Army Corps of Engineers had adequately considered the fate of the Indiana bat (Myotis sodalis) in its environmental impact statement regarding the construction of the Meremec Dam near St. Louis, Missouri. The Indiana bat had originally been listed as an endangered species pursuant to the 1966 Act. The Sierra Club maintained that the Army Corps of Engineers did not assess primary and secondary impacts of dam construction and its resultant flooding of certain caves known as critical habitats of the Indiana bat. Both the District Court and Circuit Court of Appeals[40] ruled that the Sierra Club failed to meet its burden of proof, which was to show that the actions taken or considered by the Army Corps of Engineers had or would jeopardize the continued existence of the Indiana bat.

Preceding page blank

In National Wildlife Federation,[41] the issue centered upon construction of a highway through a critical habitat of the Mississippi sandhill crane (Grus canadensis pulla). The court ruled that once a federal agency has had a meaningful consultation with the Secretary of the Interior concerning actions which may affect an endangered species, the final decision, of whether or not to proceed with the actions, lies with the federal agency itself. The 1973 Act does not give the Secretary of the Interior a veto over the actions of other federal agencies, provided that the required consultations have occurred. It follows that after consulting with the Secretary of the Interior, the federal agency involved must determine whether it has taken all necessary precautions to ensure that its actions and their subsequent secondary impacts will not jeopardize the continued existence of an endangered species, destroy or modify the habitat critical to the existence of the species. The federal agency cannot rely on another agency's proposal to provide substitute habitat in order to satisfy its burden of ensuring continued existence of the species irrespective of the past destructive actions of others. Once the decision on whether or not to proceed is made, it is then subject to judicial review to ascertain whether "the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment."[42] The decision by the Circuit Court of Appeals in National Wildlife Federation was to enjoin the Department of Transportation from building the highway until the effects of construction on the Mississippi sandhill crane and its habitat had been adequately evaluated.

In Hill,[43] the Circuit Court of Appeals overruled the District Court[44] and enjoined the Tennessee Valley Authority (TVA) from completion of construction of the Tellico Dam. The Appeals Court stated that in its opinion, once a living species has been eradicated (in this case the snail darter

(Percina imostoma tanasi), discretion loses its significance. When a project is on-going and substantial resources have been expended, the conflict between national incentives to conserve living things and the pragmatic momentum to complete the project on schedule is most inclusive. Whether the project is 50% or 90% completed is irrelevant in calculating the social and scientific costs attributable to the disappearance of a unique form of life. The on-going nature of a project does not preclude enforcement of the 1973 Act. The court ruled that a citizen suit is one method to preserve the status quo where endangered species are threatened, thereby guaranteeing the legislative or executive branches sufficient time and opportunity to analyze alternatives. Enforcement of the 1973 Act must be taken to its logical extreme.

Finally, it should be noted that the court restated it was not authorized to override the Secretary of the Interior by arbitrarily reading species out of the endangered species list or by redefining boundaries of existing critical habitats on a case-by-case basis. The standard of judicial review of such rule-making is restrictive and does not permit substitution of judgment. The welfare of the snail darter and its critical habitat, along the Little Tennessee River, weighed more heavily on the Court's conscience than the write-off of millions of dollars already expended on the Tellico Dam.

In Defenders of Wildlife,[45] the District Court ruled that the United States Fish and Wildlife Service must do far more than merely avoid elimination of protected species. It must use all methods necessary to bring those species back from the brink of extinction so that they may be removed from the endangered list.

In Capparet,[46] the United States sought a declaratory judgment of its rights to the use of water adjacent to land in Death Valley National Monument,

necessary to maintain a pool of water for the Devil's Hole pupfish (Cyprinodon diabolis), an endangered species. The evidence established that the defendant's pumping of underground water for commercial purposes had drawn water from underground sources which supplied the pool and threatened the survival of the pupfish. The defendants were enjoined so as to limit their pumping to achieve and maintain a stated daily mean water level in the pool. The significance of this decision is the importance which was attached to the protection of an endangered species ranking it superior to property rights. The court supported the 1973 Act and the federal policy of protecting endangered species through the preservation of their natural habitat.

These decisions begin to show the basic judicial interpretation of the 1973 Act.

1. Initially, the burden of proof lies with the plaintiff and not with the federal agency responsible for the action.
2. Secondary impacts must be evaluated in order to ensure the continued existence of an endangered species and to ensure that the critical habitat will not be modified or destroyed.
3. Social and scientific costs are more relevant than the financial resources which have been expended.
4. The federal government must use all methods to encourage and promote recovery of an endangered species.
5. The protection of an endangered species is more important than private property rights.

It would appear that, at least for the moment, through application of the 1973 Act, the courts are engaged in ecological tinkering, getting species through the bottlenecks until management of entire ecosystems, including habitats, can be realized and accomplished.

SECTION III

SURVEY PROCEDURE

As previously stated, the original concept and intent of this paper was to have been evaluation of all Cabinet Department and relevant federal agencies responses to four basic questions concerning the protection and/or eradication of bats. These questions were:*

1. What Federal laws, regulations and guidelines govern your agency's actions regarding both the protection and/or eradication of bats?

2. How has your agency interpreted these laws, regulations and guidelines in formation of its internal policies?

3. What do your protection policies include: i.e., cave management, acquisition, fencing, publication of locations, preservation of critical habitat, etc.?

4. If eradication is necessary, what methods and recommendations are followed? What chemicals and in what dosages are allowed?

* A copy of the original contact letter and a list of agencies are contained in Appendix III and IV.

As more information became available and was subsequently researched, it became apparent that this was a subject which could not be limited in scope to merely responses to four questions. It was, therefore, deemed necessary to provide a substantial historical background of past and present endangered species legislation.

The following subsections provide an agency-by-agency review of the existing federal policies as applied specifically to bats. It will become apparent that these policies are not solely confined to bats but encompass all endangered and/or threatened species.

SECTION IV

AGENCY RESPONSE

DEPARTMENT OF AGRICULTURE

The Department of Agriculture (DOA) works to enhance the environment and to maintain national food and fiber production by helping landowners protect their soil, water, forests and other national resources. There are no programs or policies that specifically concern bats. Three agencies under DOA responded to the survey; Animal and Plant Health Inspection Service (APHIS), Forest Service (FS), and Soil Conservation Service (SCS).

APHIS was established to conduct regulatory and control programs to protect and improve animal and plant health for the benefit of man and his environment including the eradication of pests and diseases and has no responsibilities concerning bats.

The Forest Service was created on February 1, 1905 and this action transferred federal forest reserves and responsibility for their management from the Department of the Interior to DOA. Its primary objective, policy, and use is the promotion and achievement of a pattern of natural resources that will best meet the needs of people now and in the future. Today, there are 154 national forests and 19 national grasslands comprising 187 million acres. The FS responded to each question separately and stated that there was an umbrella of federal laws which managed and protected bats and their habitats. These laws are: The Multiple Use-Sustained Yield Act of 1960, National Environmental Policy Act of 1969, hereinafter referred to as "NEPA of 1969", Federal Insecticide, Fungicide, and Rodenticide Act of 1972, hereinafter referred to as "FIFRA of 1972", the 1973 Act, previously referred to as "1973 Act", the Sikes Act of 1974 and the Federal Land Policy and Management Act of 1976, hereinafter referred to as "FLPMA of 1976."

Preceding page blank

In the manual of the FS, Sections 2600 and 2630 reflect their policy regarding the interpretation of these laws. Section 2600 "Wildlife Management" states that the FS will aid in the enforcement of the laws of the State for the protection of fish and game. Section 2630 "Management of Wildlife and Fish Habitat" states that threatened and endangered species will receive the highest priority.

In order to protect bat habitats, the FS will either acquire the land or fence the cave entrances to restrict public entry and all possible steps to preserve critical habitats will be taken. Disclosure of these locations is generally not made but can be specifically requested through the Freedom of Information Act. The FS has no control or eradication programs.

The SCS is responsible for developing and carrying out a national soil and water conservation program in cooperation with landowners and operators, other resource groups and federal agencies. Their survey response referenced NEPA of 1969, the 1973 Act, and Section 640.22 of the Soil Conservation Service Manual. This section covers rare, threatened, and endangered species of plants and animals. It sets forth background, policy responsibility, coordination, and implementation. The SCS also has published general guidelines and procedures for preparing an environmental assessment for complying with NEPA of 1969 (42 Fed. Reg. 40114 (1977)).

Since SCS is not a landowning or management agency, there are no management policies for caves. If a critical habitat is encountered, the 1973 Act takes effect. The SCS does not participate in or recommend any bat eradication or control programs.

DEPARTMENT OF COMMERCE

The Department of Commerce (DOC) encourages, serves and promotes the nation's economic development and technological advancement. It seeks to

improve the understanding of the earth's physical, environmental and oceanic resources. The DOC responded to the survey by stating that it has no direct responsibility for the preservation or eradication of bats.

The National Oceanic and Atmospheric Administration (NOAA), under the DOC, responded stating that it was created to explore, map, and chart the global oceans and their living resources including weather monitoring. NOAA has no direct responsibilities regarding bats, however, it referred responsibility for the control and regulation of pesticides to the Environmental Protection Agency.

DEPARTMENT OF DEFENSE

The Department of Defense (DOD) is responsible for providing the military forces needed to deter war and protect the security of the country. It maintains bases throughout the world. In response to the survey, the DOD has no programs for bat or cave management, no critical habitats on military lands, and no evidence of the existence of bat species in any quantity on its properties. If bat species were found, the 1973 Act would apply.

The Department of the Army (DOA), under the DOD, responded to the survey. One program is aimed at protecting the environment, improving waterway navigation, flood and beach control and water resources development. This program is the responsibility of the Army Corps of Engineers. The Corps stated that they did not have any bat control programs but referred to the 1973 Act, the NEPA of 1969, the FIFRA of 1972 and the Center for Disease Control programs. Should any bats be located during the completion of a federal project, DOA would coordinate with the local health officials, the Department of the Interior, the Center for Disease Control, and the Environmental Protection Agency. If the bats were located

within DOA buildings, they would attempt control and bat proofing through mechanical methods.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

The Department of Health, Education and Welfare (HEW) is most concerned with people and most involved with the nation's public health. Two HEW agencies, the Bureau of Veterinary Medicine and the Center for Toxicological Research, are conducting research to study the biological effects of toxic chemical substances found in man's environment emphasizing the basic biological process for chemical toxicants in animal organisms. The response to the survey by HEW and these two agencies was that bat programs were the responsibility of the Public Health Service (PHS), Center for Disease Control (CDC).

The PHS was created to assess and promote the highest level of health attainable for every individual and family in American and to develop international health projects, including the prevention and control of communicable diseases.

The CDC administers national programs for the prevention, epidemiology and control of communicable and vector-borne diseases and responded to the survey as follows: the CDC was registered by the Environmental Protection Agency on May 28, 1976 to release DDT for the control of bats in man-made structures where they constitute human health hazards as potential rabies vectors. CDC has prepared a document titled, "Guidelines for the Use of DDT in the Control of Bats." This document outlines stringent criteria for the correct procedures as to requests, application, use, technique and reports. The CDC is reluctant to release DDT for bat control because of the benefits derived from bats. Each state has a DDT coordinator responsible for reviewing all DDT requests made in his state. The applicants

must show that an abnormal rabies risk of human exposure exists and that other methods of repelling or physically excluding bats have failed before releasing DDT. The CDC will not approve any requests for the use of DDT to kill bats in caves.

Where approval is given, people spraying DDT must be licensed pest control operators familiar with the health hazards of DDT and rabies to minimize the risk of exposure. Also, it is recommended that the persons concerned with bat control be pre-immunized against rabies. Special use of DDT can also be obtained through the FIFRA of 1972, Section 18 - Crisis Exemption. This section allows the Administrator of the Environmental Protection Agency to exempt (a state) if he determines that an emergency condition exists. Before he makes his decision, he must consult with the U.S. Secretary of Agriculture and the Governor of the state making the request. The regulations clearly state that a responsible official determines there must be the possibility of an unpredictable outbreak of pests where there is no readily available pesticide registered for the particular use to eradicate or control the pest, and that there is a critical time requirement. Within 10 days after application, or use of the pesticide, the applicant must file in writing, with the Environmental Protection Agency, specific information justifying its use.

The CDC recognizes that total elimination of rabies is seldom a practicable goal and that the reduction to a normal level of risk, is a more realistic goal. The CDC will not approve programs simply to control depradating or nuisance animals.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

The Department of Housing and Urban Development (HUD) is responsible for programs concerned with housing needs and the improvement and development of the nation's communities. HUD's response to the survey was that

they have no jurisdiction regarding bat management.

DEPARTMENT OF THE INTERIOR

The Department of the Interior (DOI) is the nation's principal conservation agency and has responsibility for most of the nationally-owned public lands and natural resources including the protection of fish and wildlife. It has over 500 million acres of federal land under its jurisdiction. Seven agencies under DOI responded to the survey. These agencies were: The Bureau of Land Management, Bureau of Mines, Bureau of Reclamation, Endangered Species Scientific Authority, Fish and Wildlife Service, Geological Survey, and the National Park Service.

The Bureau of Land Management (BLM) has management authority over 473 million acres of public lands. Its programs provide for the protection, orderly development, and use of these lands and their resources, while maintaining and enhancing the quality of the environment.

The BLM has no specific bat management plans. It is responsible for the management of wildlife habitat on public lands, under the FLPMA of 1976. Under FLPMA of 1976, the Secretary of the Department of Interior shall prepare and maintain, on a continuing basis, an inventory of all public lands and their resources and other values, giving priority to areas of critical environmental concern. Other laws that govern BLM actions regarding bats are the 1973 Act, NEPA of 1969, Sikes Act of 1960, Bald Eagle Protection Act of 1940, and the FIFRA of 1972.

The BLM also has a policy manual which directs its actions. Section 1063 provides guidance on the protection and use of species through the enhancement and maintenance of wildlife habitat components. Section 6620 provides guidance on the preparation of habitat management plans and Section 6840 provides guidance for the conservation of animals which are officially listed in categories that imply significant potential for extinction.

BLM requires permits as a means of controlling visitor use in cave entries. This permit system allows BLM to restrict the number of visitors, to close an entire cave, to permit only certain portions to be used and to restrict the size and number of parties using a cave. BLM also gates significant caves as a protection measure. These gates are so designed to allow bats to pass.

If the BLM feels that bat eradication is necessary, they will contact the State Wildlife Agency and U.S. Fish and Wildlife Service. They will complete an environmental assessment prior to eradication to identify possible impacts of this action. The eradication will be accomplished by the State Wildlife Agency, State Public Health Agency and/or the U.S. Fish and Wildlife Service.

The Bureau of the Mines is primarily a research and fact-finding agency responsible to stimulate private industry to produce a substantial share of the nation's mineral needs in ways that best protect the public interest. Their response to the survey was that they had no responsibility regarding bat management.

The Bureau of Reclamation was established to locate, construct, operate, and maintain works for the storage, diversion and development of waters for the reclamation of the arid and semi-arid lands in the western states. Their survey response was that they had no programs involving bats or their habitats, however, should bats be encountered, the Bureau would prevent or mitigate impacts by suitable modification or additions to the plan.

The Endangered Species Scientific Authority (ESSA) was created to ensure the scientific soundness of governmental decisions concerning trade in endangered species of plants and animals. It is the U.S. Scientific Authority for the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

ESSA responded to the survey by stating that they are not involved in any bat habitat management or eradication programs and they are primarily concerned with international trade. Trade includes the movement of specimens whether for commercial, scientific, exhibition or other reasons. There are five species of bats listed by the Convention (these species are listed in Appendix V). Unless trade appears to be more of a problem than at present for the survival of a bat species, ESSA probably will not be involved more extensively with bats in the future.

The objective of the Fish and Wildlife Service (FWS) is to assure maximum opportunity for the American people to benefit from fish and wildlife resources including, but not limited to, resource management, biological monitoring, restoration and preventive protective measures involving endangered and threatened species. There are over 367 National Wildlife Refuges comprising more than 30 million acres of public lands under its jurisdiction.

The FWS has direct responsibility for bat protection and control through the 1973 Act and the Fish and Wildlife Coordination Act of 1956. They have issued "Guidelines to Assist Federal Agencies in Complying with Section 7 of the Endangered Species Act of 1973." These guidelines are intended to furnish a broad framework within which federal agencies may prepare internal procedures to guide their activities or programs and may be used at their discretion. The working concepts mentioned in Section 7 are critical habitat, jeopardizing the continued existence, and destruction or adverse modification.

FWS has several protection policies. These policies depend on the state of the individual species or population and are dictated by a recovery plan prepared by FWS. They include cave management, land acquisition, cave fencing, preservation of critical habitat, and a moratorium on bat banding.

The FWS policy prohibits the uses of DDT and other chemicals placed on its prohibitive list. FWS recommends "bat-proofing" buildings as an alternative to DDT spraying. Bat proofing is a non-chemical bat management tool. It involves sealing the entry holes of a structure when the bats are out feeding or migrating. When a lethal toxicant is used, it may cause moribund bats to be scattered throughout a wide area thus increasing the likelihood that persons and pets may be bitten. The indiscriminate killing of bats under the guise of public health is not acceptable to the FWS. Bat proofing or architectural modification is the most promising method presently available. The FWS is preparing a technical bulletin on bat management.

The Geological Survey is responsible for performing surveys, investigations and research covering topography, geology, and the mineral and water resources of the United States. Their response to the survey was that they had no jurisdiction in bat management.

The National Park Service (NPS) administers the national system of parks, monuments, historic sites and recreation areas in order to protect the natural environment of these areas. This includes the preservation, management, and interpretation of the land and its resources. There are over 300 units in the National Park system. The NPS responded to the survey by stating that they had no bat eradication policy. Their objective was to maintain diversity and natural abundance of all endemic wildlife species. NPS manages underground cave systems as total systems. They have management policies for animal populations, wildlife populations, threatened and endangered plants and animals, pesticide use and cave management. NPS will preserve all critical habitat areas.

DEPARTMENT OF JUSTICE

The Department of Justice represents the citizens in enforcing the law in the public interest. Their response to the survey was that they had no

direct or indirect responsibilities regarding the protection or eradication of bats.

DEPARTMENT OF LABOR

The Department of Labor was created to foster, promote and develop the welfare of the wage earners of the United States, to improve their working conditions and to advance their opportunities for profitable employment and as such, they have no jurisdiction regarding bat management.

DEPARTMENT OF STATE

The Department of State's primary responsibility is to advise the President in the formulation and execution of foreign policy and to promote the long-range security and well-being of the United States. Their survey response was that they had no programs or jurisdiction regarding bat management.

DEPARTMENT OF TRANSPORTATION

The Department of Transportation (DOT) establishes the nation's overall transportation policy and develops programs conducive to the provision of fast, safe, efficient, and convenient transportation and as such, it has no policies nor any direct responsibility regarding bat management. Three agencies under DOT responded to the survey - Coast Guard, Federal Aviation Administration and the Federal Highway Administration.

The Coast Guard is a branch of the Navy and is the primary maritime law enforcement agency. In its response to the survey, it stated that they have no policies regarding bats. They referenced to the FIFRA of 1972 by stating that Commandant Instruction 6250 I.E., implements the FIFRA of 1972 requiring all pest control activities to be conducted in accordance with the

regulations developed under the FIFRA of 1972.

The Federal Aviation Administration was established to regulate air commerce and to foster aviation safety. It does not have any policies dealing with bats.

The Federal Highway Administration seeks to coordinate highways with other modes of transportation. It is concerned with the total operation and environment of the highway. Their survey response was that although they did not have any specific regulations regarding bat management, they did have a policy on the preparation of an environmental impact assessment which is contained in the "Federal-Aid Highway Program Manual" Volume 7, Chapter 7, Section 2. Reference was made to the 1973 Act and should bats be encountered, they would coordinate with the U.S. Fish and Wildlife Service.

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) was created to protect and enhance the environment to the fullest extent possible under the laws enacted by Congress. Its mission is to control and abate pollution in areas of air, water, solid waste, pesticides, noise and radiation.

EPA responded to the survey by stating that it was primarily a regulatory agency and not directly involved in wildlife management programs and does not have any formal bat management policies. They have responsibility for enforcing the FIFRA of 1972 which regulates the marketing of pesticides and requires that such products be registered on the basis of proven effectiveness and safety to humans, livestock, wildlife and the environment. The regulations under FIFRA of 1972 are very specific. They list the criteria for determinations of unreasonable adverse affects of pesticides. Forms of plant and animal life and viruses declared to be pests and which are injurious to health or to the environment are listed. They prepare guidelines for regis-

tering pesticides in the United States and list the criteria when exemptions under emergency conditions may be given, which was discussed previously under HEW's survey response.

EPA cancelled all products which have DDT (dichloro diphenyl trichloroethane) on July 7, 1972 except for the following uses: the control of vector diseases as determined by the Public Health Service: health quarantine; controlling body lice; and use in the formulation of prescription drugs. There are three other products that can be used for bat control: Rozol tracking powder (EPA Registration Number 7173-113) for use in New Jersey only; naphthalene flakes (USDA Registration Number 462-10); and chlorophacinone (for use only in Maine, Vermont, Ohio and New Jersey). These products can only be used in buildings where humans may be in close contact and only with the approval of the Center for Disease Control.

TENNESSEE VALLEY AUTHORITY

The Tennessee Valley Authority (TVA) conducts a unified program of resource development for the advancement of economic growth in the Tennessee Valley region including flood control, recreation improvement, forestry and wildlife development.

TVA's response to the survey was that bat populations are best encouraged by avoiding attempts at management referring to NEPA of 1969 and the 1973 Act. They recognized the ecological significance of bat populations and the importance of their protection. There are frequent consultations with the U.S. Fish and Wildlife Service experts and national bat experts. TVA does not support any chemical eradication programs but rather place their emphasis on the protection of bat caves. TVA has worked with local grottoes (chapters) of the National Speleological Society to protect caves against vandalism and wanton destruction. They generally use fencing and gating of caves as a last

resort. Finally, they limit the publication of the exact locations of caves to further their protection.

COUNCIL ON ENVIRONMENTAL QUALITY

The Council on Environmental Quality (CEQ) was established by the National Environmental Policy Act of 1969 to formulate and recommend national policies to promote the improvement of the quality of the environment. In responding to the survey, CEQ stated that it had no agency responsibility nor stated policy regarding bat management. CEQ's major legislative mandate is the NEPA of 1969 which requires an environmental impact statement to be prepared on proposed major federal actions such as: the background and description of the proposed action; alternatives; environmental impacts of the proposed legislation; adverse impacts which cannot be avoided; steps to minimize harm; relationship between local short-term uses and the maintenance and enhancement of long-term productivity; irreversible and irretrievable commitments of resources and, problems and objections raised during the review process.

CEQ believes protection should be provided since it is appropriate for bat preservation. They are opposed to unnecessary use of pesticides since most eradication programs are ineffective, uneconomical and environmentally unsound. They are preparing an "Integrated Pest Management Concept" which will be available shortly.

OFFICE OF SCIENCE AND TECHNOLOGY POLICY

The Office of Science and Technology Policy (OSTP) is the source of scientific, engineering and technological analysis and judgement for the President with respect to major policies, plans and programs including environmental issues.

OSTP's survey response was that it is not governed by any laws,

regulations or guidelines regarding bat management and also acknowledged that the use of DDT may scatter bats throughout the area thereby increasing the likelihood that persons may be bitten. OSTP also recognzied that there is a serious health hazard associated with the use of long-lived bio-degradability of toxicants within the home. They referred to the Center for Disease Control's policy and restated that a high risk must be present before releasing DDT to an applicant.

SECTION V

CONCLUSION:

In conclusion, the responses to the questions indicate that there exists several federal policies relative to bats, all of which are basicially uniform and consistent at the major levels; i.e., nationally down through to the regional field offices. Ultimately, however, the Department of the Interior, Department of Health, Education and Welfare, and the Environmental Protection Agency have the primary responsibility for decisions made regarding bat management. Judging from these agency responses, it is apparent that the actual eradication of bats, when proven to be of potential human danger, is not a decision taken lightly. It is, in fact, one subjected to careful scrutiny, preparation and inter-agency coordination.

Ironically, in our opinion, it appears that those persons upon whom the actual burden of bat eradication falls, seem to view the procedure, notwithstanding, with a degree of reluctance. In contrast, the man-on-the street tends to view all bats as something conceived directly from the pages of Dracula. The frightening scenerio of the "dreaded" super-natural vampire fluttering whisper-soft into the night to claim yet another unsuspecting victim remains first and foremost in our minds and countless numbers of bats, both protected and non-protected, have undoubtedly been annihilated simply through ignorance and misunderstanding.

It can be concluded, then, that a more concerted effort should be made to educate the general public about this tiny fragile creature which is unique in the animal kingdom. Such a program would, undoubtedly, be an up-hill struggle given the awesome power of the media but it should be attempted.

It has also been determined through the survey results that the existing endangered species legislation provides a basic tempering tool - one which

must be applied judiciously yet forcefully. Such a tool will enable us to provide the necessary protection to prevent any further species extinction and which, through intelligent application, will allow all creatures to exist without perpetual threat of extinction. We must co-exist with all animal, fish and plant life, and we must also come to grips with the fact that while animals and plants may very well exist harmoniously one with another without human intrusion, we cannot survive without them.. a very sobering thought.

Effective endangered species legislation has been a long time evolving to its present level, and as a result many species are now irretrievably gone. The existing legislation, however, does appear more capable of coping with the potential problems of future species extinction.

It is the authors' hope that this paper has proven to be informative, interesting and thought-provoking. Many species are now endangered, and in some cases even extinct, which remains a burden we must bear. It also remains our responsibility to see that this pattern is not repeated in future generations.

We have suggested that it is difficult for us to live one with another within our own species; therefore, it is hoped that the insiduous process of extinction ceases to be a by-product of what is generally termed "growth." The chilling concept of one day viewing rabbits, deer, birds, plants and even bats, through glassed-in cages or walled wildlife preserves as relics of our past may prove to be a major human tragedy. We are intricately tied one to another and our survival is basically contingent upon theirs. When viewed thusly, endangered species legislation loses the aura of "legislative" luster and should become a matter of ernest concern if we remember that legislation does not necessarily ensure protection. We hope the reader may view it also in this manner because to do other-

wise, we may one day discover that our own survival has become the matter of primary global concern and is contingent upon some form of legislative dictate. And who will be there to ensure our survival?

SECTION VI

APPENDIX I

INDIANA BAT CRITICAL HABITAT[35]

The following areas (exclusive of those settlements or man-made structures which are not necessary to the normal needs or survival of the species) are critical habitat for the Indiana bat (Myotis sodalis).

1. Illinois	The Blackball Mine, LaSalle County
2. Indiana	Big Wyandotte Cave, Crawford County Ray's Cave, Green County
3. Kentucky	Bat Cave, Carter County Coach Cave, Edmonson County
4. Missouri*	Cave 021, Crawford County Cave 009, Franklin County Cave 017, Franklin County Pilot Knob Mine, Iron County Bat Cave, Shannon County Cave 029, Washington County
5. Tennessee	White Oak Blowhold Cave, Blount County
6. West Virginia	Hellhole Cave, Pendleton County

* Numbers assigned by Division of Ecological Services, U.S. Fish and Wildlife Service, Region 6.

Preceding page blank

APPENDIX II

PROPOSED VIRGINIA BIG-EARED BAT CRITICAL HABITAT[36]

1.	Kentucky	Stillhouse Cave	Lee County
2.	West Virginia	Cave Mountain Cave	Pendleton County
		Hellhole Cave	Pendleton County
		Hoffman School Cave	Pendleton County
		Sinnit Cave	Pendleton County
		Cave Hollow Cave	Pendleton County

APPENDIX III

ORIGINAL CONTACT LETTER

Dear _____:

As part of a research project for the National Speleological Society's Conservation Committee, I am currently seeking information from various federal and state agencies relative to any policies which may presently exist as to the protection of and/or eradication of bats. If possible, could you please supply the following information:

1. What federal laws, regulations and guidelines govern your agency's actions regarding both the protection and/or eradication of bats? Please cite specific laws or regulations and enclose a copy of these guidelines, if possible.

2. How has your agency interpreted these laws, regulations and guidelines in the formation of its internal policies? Please enclose a copy of the policy if available.

3. What do your protection policies include: i.e., cave management, acquisition, fencing, publication of locations, preservation of critical habitat, etc.?

4. If eradication is necessary, what methods and recommendations are followed? What chemicals and in what dosages are allowed?

If, upon receiving your response, additional information or clarification should be required, would you please designate a prime contact? If your agency has no direct responsibility in this area, please so indicate.

Thank you for your time and consideration. Any information you may be able to provide will be appreciated.

Sincerely,

APPENDIX IV

AGENCY CONTACTS

Department of Agriculture
Animal and Plant Health Inspection Service
Washington, D. C. 20250
J. W. Gentry, Acting Deputy Administrator

Department of Agriculture, Forest Service
Eastern Region, U.S. Forest Service
633 West Wisconsin Avenue
Milwaukee, Wisconsin 53203
Mr. Robert E. Radtke

Department of Agriculture
Soil Conservation Service
Box 2890
Washington, D. C. 20013
202+ 447-5991
Carl H. Thomas, Chief Biologist

Department of Commerce
Office of the Secretary
Washington, D. C. 20230
Patricia M. Parks, Correspondence Review Specialist

Department of Commerce
National Oceanic and Atmospheric Administration
Washington, D. C. 20230
James W. Brennan, Deputy General Counsel

Department of Defense
Office of the Assistant Secretary of Defense
Washington, D. C. 20301
Perry J. Fliakas, Deputy Asst. Secretary of Defense

Department of the Army
Office of the Chief of Engineers, DAEN-CWO-R
Washington, D. C. 20314
LTC. John R. Hill, Jr., Assistant Director of Civil Works

DAEN-FEB-N
Buildings and Ground Division
Robert B. McGough, Chief

Department of Health, Education and Welfare
Public Health Service
Food and Drug Administration
Rockville, Maryland 20857
Bureau of Veterinary Medicine
Philip D. Cazier, D.V.M., Acting Director

Department of Health, Education and Welfare
Center for Disease Control
Viral Diseases Division
Atlanta, Georgia 30333
Everette F. Baker, Jr., D.V.M.

Department of Health, Education and Welfare
Public Health Service
National Center for Toxicological Research
Rockville, Maryland 20852
Buelah M. Sink, Assistant to the Director

Department of Housing and Urban Development
Washington, D. C. 20410
John J. Triste, Director of Community Development Programs

Department of the Interior, Bureau of Land Management
Division of Wildlife
Washington, D. C. 20240
Dick Vernimen, Non-game Biologist

Department of the Interior
Bureau of Mines
Washington, D. C. 20240
J. D. Morgan, Acting Director

Department of the Interior
Bureau of Reclamation
Washington, D. C. 20240
R. Higgiman, Commissioner

Endangered Species Scientific Authority
18th and C. Streets, N. W.
Washington, D. C. 20240
Peter C. Escherich, Staff Zoologist
202+343-5687

Department of Interior
Fish and Wildlife Service
Division of Wildlife Research
Washington, D. C. 20240
Arthur M. Greenhall

Department of the Interior
Geological Survey
907 National Center
Reston, Virginia 22092
Catherine D'Agostino, Geological Inquiries Assistant

United States Department of Justice
Land and Natural Resources Division
Washington, D. C. 20530
Martin Green, Legislative Assistant

Department of Labor
Employment and Training Administration
Washington, D. C. 20213
Albert Mapou, Office of Research and Development

State Department
Oceans and International Environment and Scientific Affairs
Washington,D. C. 20520
Patsy T. Mink, Assistant Secretary

Office of the Secretary of Transportation
Washington, D. C. 20590
William W. Bishop, Chief, News Division

Department of Transportation
U.S. Coast Guard
Washington, D. C. 20590
Harry Allen, Rear Admiral
Chief - Office of Health Services

Department of Transportation
Federal Aviation Administration
Washington, D. C. 20591
Charles R. Foster, Director of Environmental Quality

Department of Transportation
Federal Highway Administration
Washington, D. C. 20590
Charles Des Jardins, Ecologist

Environmental Protection Agency
401 M. Street, S.W.
Washington, D. C. 20460
Edwin L. Johnson, Deputy Assistant Administrator for Pesticides Programs

Tennessee Valley Authority
Knoxville, Tennessee 37902
Lynn Seeber, General Manager

Council on Environmental Quality
722 Jackson Place, N.W.
Washington, D. C. 20006
Carroll Leslie Bastian, Senior Staff Member

Executive Office of the President
Office of Science and Technology Policy
Washington, D. C. 20500
William J. Montgomery, Executive Officer

Department of the Interior
National Park Service
Washington, D. C. 20240
Gary Everhardt, Director

APPENDIX V

INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA [47]

The below listed species are prohibited from importing into, exporting from the United States without a valid foreign certificate of origin.

1. Horseshoe bat, Rhinolophus euryale - Tunisia (4-22-76)
2. Horseshoe bat, Rhinolophus ferrumequinum - Tunisia (4-22-76)
3. Horseshoe bat, Rhinolophus hipposideros - Tunisia (4-22-76)
4. Pipistrelle bat, Pipistrellus spp. (all species) - Tunisia (4-22-76)
5. White-lined bat, Vampyrops lineatus - Uruguay (7-14-76)

SECTION VII

FOOTNOTES

[1] 120 Cong. Rec. 12749 (1974).

[2] 115 Cong. Rec. 6245 (1969).

[3] Endangered Species Preservation Act of 1966, P.L. No. 89-669, 80 Stat. 926 (1966).

[4] Endangered Species Conservation Act of 1969, P.L. 91-135, 83 Stat. 275 (1969).

[5] Excerpted from the President's Environmental Message of February 8, 1972 in the United States Code Cong. and Admin. News 2991 (1973).

[6] 16 U.S.C. 1531 (1975).

[7] The Lacey Act of 1900, 16 U.S.C. 701 (1974).

[8] United States Code Congressional and Administrative News. Senate Report No. 93-307, 93rd Cong., 1st Session 2, 2990 (1973).

[9] 16 U.S.C. 1533a (4) (1975).

[10] Endangered Species Act of 1973, P.L. 93-205, 87 Stat. 884 (1973).

[11] 16 U.S.C. 1531 (5)(b) (1975).

[12] 16 U.S.C. 1532 (2) (1975).

[13] 16 U.S.C. 1533 (a)(2)(1975).

[14] 16 U.S.C. 1532 (4) (1975).

[15] 16 U.S.C. 1533 (1)(b)(1975).

[16] 16 U.S.C. 1532 (15) (1975).

[17] 16 U.S.C. 1533 (d)(1975).

[18] 16 U.S.C. 1536 (1975).

[19] 16 U.S.C. 1536 (1975).

Preceding page blank

[20] 16 U.S.C. 1535 (f)(1975).

[21] 16 U.S.C. 1537 (a)(b)(1975).

[22] 16 U.S.C. 1538 (a)(1)(1975).

[23] 16 U.S.C. 1538 (a)(2)(1975).

[24] 16 U.S.C. 1533 (a)(2)(1975).

[25] 16 U.S.C. 1532 (14)(1975).

[26] 16 U.S.C. 1540 (g)(1)(A)(1975).

[27] 16 U.S.C. 1536 (1975).

[28] 40 Fed. Reg. 17764 (1975).

[29] 40 Fed. Reg. 17765 (1975).

[30] 32 Fed. Reg. 4001 (1967).

[31] 35 Fed. Reg. 16047-48 (1970).

[32] 41 Fed. Reg. 17736-40 (1976).

[33] 41 Fed. Reg. 47180-98 (1976).

[34] 40 Fed. Reg. 21499-501 (1975).

[35] 41 Fed. Reg. 41914-16 (1976).

[36] 42 Fed. Reg. 61290-92 (1977).

[37] 16 U.S.C. 1532 (2)(1975).

[38] Indiana Bat Recovery Plan, U. S. Department of the Interior, Fish and Wildlife Service, June 1, 1976, 34 pp.

[39] Sierra Club v. Froehlke, 392 F. Supp. 130 (8th Cir. 1975).

[40] Sierra Club v. Froehlke, 534 F. 2nd 1289 (E.D. Mo. 1976).

[41] National Wildlife Federation v. Coleman, 529 F. 2d 359 (5th Cir. 1976).

[42] Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 91S. Ct. 814, 28L. Ed 2d 136 (1971).

[43] Hiram G. Hill v. Tennessee Valley Authority, 549 F. 2d 1064 (6th Cir. 1977).

[44] Hiram G. Hill v. Tennessee Valley Authority, 419 F. Supp. (E.D. Tenn. 1976).

[45] Defenders of Wildlife v. Andrus, 428 F. Supp. 167 (D.D.C. 1977).

[46] United States v. Capparet, 375 F. Supp. 456 (D. Nev. 1974).

[47] 42 Fed. Reg. 10462 (1977).

ACKNOWLEDGEMENT

We wish to express our appreciation to those individuals who so ably refereed this paper especially Mr. Eugene Hargrove and Mr. James Hedges, Editor of the NSS Bulletin.

Our special thanks must be expressed to Mr. Arthur Greenhall, U.S. Department of the Interior, Fish and Wildlife Service, for his invaluable assistance and consistent encouragement during preparation of the final draft of the Bat Management paper.

Preceding page blank

☆U.S. GOVERNMENT PRINTING OFFICE: 1978—750-162

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
EPA-905/3-78-001		

4. TITLE AND SUBTITLE	5. REPORT DATE
BAT MANAGEMENT IN THE UNITED STATES: A Survey of Legislative Actions, Court Decisions and Agency Interpretations	April, 1978
	6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) Thomas M. Lera and Sue Fortune	8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Environmental Protection Agency - Region V Water Division, Planning Branch 230 South Dearborn Chicago, Illinois 60604	10. PROGRAM ELEMENT NO.
	11. CONTRACT/GRANT NO.
12. SPONSORING AGENCY NAME AND ADDRESS U.S. Environmental Protection Agency - Region V Water Division, Planning Branch 230 South Dearborn Chicago, Illinois 60604	13. TYPE OF REPORT AND PERIOD COVERED Final
	14. SPONSORING AGENCY CODE

15. SUPPLEMENTARY NOTES
To be published, in part, in the quarterly issue of National Speleological Society Bulletin.

16. ABSTRACT

In 1966, Congress enacted legislation which afforded native animals legal protection. Since that time, this legislation has been twice revised. The current Endangered Species Act of 1973, provides not only animals but also plants with what appears to be a reasonable degree of protection and survival. Recent court decisions support the concept and validity of the Endangered Species Act of 1973.

This paper is the result of a survey conducted throughout 14 Federal departments and agencies in order to obtain their interpretation of this legislation, and more specifically, how bats are protected by this interpretation. The survey included four questions:

1) What Federal laws, regulations and guidelines govern your Agency's actions regarding both the protection and/or eradication of bats?
2) How has your Agency interpreted these laws, regulations and guidelines in the formation of its internal policies?
3) What do your protection policies include?
4) If eradication is necessary, what methods and recommendations are followed, and what chemicals and in what dosages are allowed?

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Endangered Species Legislation Bats	Animal Management	

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(This Report)*	21. NO. OF PAGES
Release Unlimited	Unclassified	
	20. SECURITY CLASS *(This page)* Unclassified	22. PRICE

EPA Form 2220-1 (9-73)